

Course Descriptions None 2026-2027

Course Title Algorithmic Decision Making
 Course Code EBC4188
 ECTS Credits 6,5
 Assessment Whole/Half Grades

Period	Start	End	Mon	Tue	Wed	Thu	Fri
1	31-8-2026	16-10-2026	X			X	

Level Advanced
 Coordinator Marc Schröder For more information:m.schroder@maastrichtuniversity.nl
 Language of instruction English
 Goals Students learn how to

- * model real-life problems as mathematical optimization problems.
- * design and implement algorithms to solve problems.
- * formally proof properties of algorithms.
- * evaluate and select algorithms based on properties of the algorithms.
- * work in teams to solve a mathematical optimization problem.

Description Algorithmic Decision Making explores how mathematical and computational tools are used and designed to improve decision-making in different domains ranging from traditional optimization to strategic environments. The course introduces key concepts like (integer) linear programming, matching algorithms, and incentives in mechanism design and games. Students will learn to model real-world decision problems using the appropriate tools, implement and analyze algorithms, and evaluate their performance.

Literature There are lecture notes available via Canvas.

Prerequisites Exchange students need to have obtained a BSc degree in Economics, International Business, Econometrics, or a related topic. Familiarity with the basic concepts of optimization and linear programming will be helpful. A solid basis in mathematics and calculus is also recommendable.

Transitional Regulations

Education	Exam/Resit	Replacement(s)
2024-2025 - 2025-2026	X	X
2026-2027	X	
2027-2028 onwards		

Teaching methods PBL / Presentation / Assignment / Groupwork

Assessment methods Final Paper / Written Exam / Assignment

Evaluation in previous academic year For the complete evaluation of this course please click <http://iwio-sbe.maastrichtuniversity.nl/rapporten.asp?referrer=codeUM>

This course belongs to the following programme / specialisation	Master Business Research - No specialisation	In transition - Year 2 Free Electives
	Master Business Research - Operations Research	In transition - Year 1 Compulsory Courses
	Master Econometrics and Operations Research	Compulsory Courses
	Master Economic and Financial Research - Econometrics and Operations Research	Elective Courses
	Master Economic and Financial Research - Econometrics and Operations Research	Year 1 Core Courses
	Master Economic and Financial Research - No specialisation	Elective Courses
	SBE Exchange Master	Master Exchange Courses
	SBE Non Degree Courses	Master Courses